REMARKS

Claims 1-3, 6-29, and 32-60 are pending. By this amendment, claims 4, 5, 30 and 31 are canceled, and claims 1, 3, 9, 23, 27, 29, 35, and 49 are amended. The amendments to the claims are supported by the specification. Reconsideration in view of the above amendments and the following remarks is respectfully requested.

Claims 9, 35, 23, and 49 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. The rejection is respectfully traversed.

In regard to claims 9 and 35, the Office Action asserts that partitioning "the at least one of the plurality of objects into a plurality of groups" is unclear. In the interest of expediting prosecution and allowance of the application, claims 9 and 35 have been amended to clarify the claimed subject matter. Withdrawal of the rejection of claims 9 and 35 under 35 U.S.C. §112, second paragraph, is respectfully requested.

Additionally, in regard to claims 23 and 49, the Office Action asserts that "the limitations" of these claim are unclear because the recitation of constructing a "union between a second object and changed fragments need[ed] to construct the second object for at least one edge begins with the second object and terminates in the first object and for which the second object has changed" does not "explain" the step of "determining changed fragments needed to construct a first object". In the interest of expediting prosecution and allowance of the application, claims 23 and 49 have been amended to clarify the claimed subject matter. Withdrawal of the rejection of claims 23 and 49 under 35 U.S.C. §112, second paragraph, is respectfully requested.

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Claims 1-3, 6-8, 11, 14, 15, 27-29, 32-34, 37, 40, and 41 are rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,026,413 to Challenger et al. (hereinafter Challenger). The rejection is respectfully traversed.

Claim 1 has been amended to recite, *inter alia*, "[a] method for determining an order in which to construct objects comprising...providing a plurality of objects...identifying at least one relationship between the plurality of objects; representing the at least one relationship between the plurality of objects using at least one graph; and topologically sorting the at least one graph to determine the order in which to construct objects in accordance with the at least one relationship and an update to at least one of the objects in the plurality of objects."

Challenger discloses a method for determining how changes to underlying data affect the value of objects. A directed graph is used to represent data dependencies between objects. An edge from one object to another object indicates that there is a dependency between these objects. An object manager maintains the data dependence information.

However, Challenger does not disclose the feature of "topologically sorting the at least one graph to determine the order in which to construct objects in accordance with the at least one relationship and an update to at least one of the objects in the plurality of objects."

In asserting that this reference teaches the use of a directed graph and the order in which to construct objects, the Office Action refers to Challenger, at col. 4, lines 11-15 and lines 37-40 and col. 28, lines 48-56, but these portions of the text merely teach traversing a graph (i.e., accessing the nodes in a particular manner) and updating dependent objects. It is respectfully submitted that traversing a graph and updating dependent objects is not the same as topologically sorting the graph to determine the order to construct objects. Thus, the Office Action fails to

disclose the feature of "topologically sorting the at least one graph to determine the order in which to construct objects in accordance with the at least one relationship and an update to at least one of the objects in the plurality of objects," as recited in claim 1.

Claim 27 has been amended to recite, *inter alia*, "[a] program storage device readable by machine, tangibly embodying a program of instructions executable by the machine to perform method steps for determining an order in which to construct a plurality of objects, the method steps comprising: providing a plurality of objects...identifying at least one relationship between the plurality of objects; representing the plurality of objects and the at least one relationship between the plurality of objects using at least one graph; and topologically sorting the at least one graph to determine the order in which to construct objects in accordance with the at least one relationship and an update to at least one of the objects in the plurality of objects."

It is respectfully submitted that the features as claimed in claim 27 are likewise not disclosed by Challenger. For instance, as discussed for claim 1, the reference does not disclose "topologically sorting the at least one graph to determine the order in which to construct objects in accordance with the at least one relationship and an update to at least one of the objects in the plurality of objects."

Because Challenger fails to disclose or suggest one or more feature recited in independent claims 1 and 27, this reference would not have anticipated or rendered obvious the subject matter of independent claims 1 and 27. Since claims 2, 3, 6-8, 14, and 15 depend from claim 1, and claims 28, 29, 32-34, 37, 40, and 41 depend from claim 27, these claims are likewise patentable over the cited reference. Accordingly, withdrawal of the rejection of claims 1-3, 6-8, 11, 14, 15, 27-29, 32-34, 37, 40, and 41 under 35 U.S.C. §102(e) is respectfully requested.

Claims 4, 5, 30, and 31 are rejected under 35 U.S.C. §103(a) as being unpatentable over Challenger, in view of Cormen et al., "Introduction to Algorithms" (hereinafter Cormen). The rejection is respectfully traversed.

Claims 4, 5, 30 and 31 have been canceled, rendering moot any rejection thereto. Accordingly, withdrawal of the rejection of claims 4, 5, 30 and 31 under 35 U.S.C. §103(a) is respectfully requested.

Claims 9, 10, 35, and 36 are rejected under 35 U.S.C. §103(a) as being unpatentable over Challenger, in view of U.S. Patent No. 6,230,168 B1 to Unger et al. (hereinafter Unger). The rejection is respectfully traversed.

Unger is directed to a method of facilitating hypertext navigation within a collection of linked files. The method includes gathering a set of linked files for inclusion within the collection and identifying a map of links among the files. The map is then analyzed to determine groupings among the files based on relevance.

It is respectfully submitted that Unger fails to overcome the deficiencies of Challenger. Accordingly, since Challenger in view of Unger, fails to disclose or teach every feature of the claimed invention, it is respectfully submitted that the combination of Challenger and Unger fails to render obvious the subject matter of dependent claims 9, 10, 35, and 36. Withdrawal of the rejection of claims 9, 10, 35, and 36 under 35 U.S.C. §103 (a) is respectfully requested.

Claims 12, 13, 38, and 39 are rejected under 35 U.S.C. §103(a) as being unpatentable over Challenger, in view of U.S. Patent No. 6,185,585 B1 to Sequeira. The rejection is respectfully traversed.

Sequeira relates to a system and method for navigating Internet content with a limited or non-existent return channel, limited bandwidth and/or a set-top box with limited processing power.

It is respectfully submitted that Sequeira also fails to overcome the deficiencies of Challenger. Accordingly, since Challenger in view of Sequeira, fails to disclose or teach every feature of the claimed invention, it is respectfully submitted that the combination of Challenger and Sequeira fails to render obvious the subject matter of dependent claims 12, 13, 38, and 39. Withdrawal of the rejection of claims 12, 13, 38, and 39 under 35 U.S.C. §103 (a) is respectfully requested.

Claims 16, 17, 20-22, 42, 43, and 46-48 are rejected under 35 U.S.C. §103(a) as being unpatentable over Challenger, in view of Unger. The rejection is respectfully traversed.

Claim 16 recites, "[a] method for publishing a plurality of objects comprising the steps of: providing a plurality of objects, including compound objects; partitioning at least some of the plurality of objects into a plurality of groups such that if two compound objects are constructed from at least one common changed fragment, then the compound objects are placed in a same group; and publishing all objects belonging to the same group together."

The Office Action acknowledges that Challenger does not explicitly disclose the features of "partitioning at least some of the plurality of objects into a plurality of groups such that if two compound objects are constructed from at least one common changed fragment, then the compound objects are placed in a same group" and "publishing all objects belonging to the same group together."

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Unger is relied upon to make up for the deficiencies of Challenger. The Office Action refers to Unger, at col. 4, lines 24-28 and 43-64, for grouping objects together into logical collections and traversing a link tree to facilitate accesses to related objects that are included in the collections. The Office Action asserts that "[a]lthough Unger groups objects in a different manner, it is only because he uses a different criteria." In conclusion, the Office Action states that it would have been obvious to combine the references in the asserted manner "to consistently publish the updated objects to the clients, since this will help publishing of related objects that depend on a common fragment in a consistent manner."

It is respectfully submitted that a thorough reading of Unger reveals no teaching or suggestion disclosing or motivating the Applicants' claimed invention. That is to be expected because Unger is directed to an entirely different problem than is the Applicants' invention. Unger is directed to a method for facilitating hypertext navigation, not a method for publishing a plurality of objects. Thus, Unger fails to disclose "partitioning at least some of the plurality of objects into a plurality of groups such that if two compound objects are constructed from at least one common changed fragment, then the compound objects are placed in a same group" and "publishing all objects belonging to the same group together," as recited in claim 16.

Claim 42 recites a "program storage device readable device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform method steps for publishing a plurality of objects, the method steps" comprising the steps of claim 16. It is respectfully submitted that independent claim 42 is likewise patentable over the cited references for reasons which should be clear from the above discussion.

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Because Challenger and Unger, either alone or in combination, fail to teach or suggest one or more feature recited in independent claims 16 and 42, these references would not have rendered obvious the subject matter of independent claims 16 and 42. Claims 17, 20-22, 43, and 46-48, which depend from claims 16 and 42, are likewise patentable over the cited reference for at least the reasons discussed. Accordingly, withdrawal of the rejection of claims 16, 17, 20-22, 42, 43, and 46-48 under 35 U.S.C. §103(a) is respectfully requested.

Claims 18, 19, 44, and 45 are rejected under 35 U.S.C. §103(a) as being unpatentable over Challenger, in view of Unger and Sequeira. The rejection is respectfully traversed.

For at least the reasons presented above, it is respectfully submitted that Challenger, in view of Unger and Sequeira, fails to disclose or teach the subject matter of dependent claims 18, 19, 44, and 45. Accordingly, it is respectfully submitted that the combination of Challenger, Unger and Sequeira fails to render obvious the subject matter of dependent claims 18, 19, 44, and 45. Accordingly, withdrawal of the rejection of claims 18, 19, 44, and 45 under 35 U.S.C. §103(a) is respectfully requested.

Claims 23-26 and 49-52 are rejected under 35 U.S.C. §103(a) as being unpatentable over Challenger, in view of Unger and Cormen. The rejection is respectfully traversed.

For at least the reasons presented above, it is respectfully submitted that Challenger, in view of Unger and Sequeira, fails to disclose or teach the subject matter of dependent claims 23-26 and 49-52. Accordingly, it is respectfully submitted that the combination of Challenger, Unger and Cormen fails to render obvious the subject matter of dependent claims 23-26 and 49-52. Accordingly, withdrawal of the rejection of claims 23-26 and 49-52 under 35 U.S.C. §103(a) is respectfully requested.

Claims 53-56 are rejected under 35 U.S.C. §103(a) as being unpatentable over Challenger, in view of Cormen. The rejection is respectfully traversed.

Claim 53 recites a "method for publishing a plurality of objects comprising the steps of: providing a plurality of objects; constructing at least one graph, the at least one graph including nodes representing objects and edges for connecting nodes having relationships, at least some of the edges being derived from at least one consistency constraint; and finding at least one strongly connected component in the at least one graph."

The Office Action acknowledges that Challenger does not disclose finding at least one strongly connected component in the at least one graph. It is asserted that Challenger mentions using a depth first traversal to update objects and that Cormen teaches using a depth first search to perform a topological sort and to find strongly connected components. In conclusion, the Office Action states that it would have been obvious to modify Challenger with the algorithms taught by Cormen "to find strongly connected components since finding strongly connected components are necessary to update them [in a consistent manner]."

However, it is respectfully submitted that the feature of "finding at least one strongly connected component in the at least one graph" is nowhere disclosed in the cited references. Moreover, there simply would have been no motivation to have modified Challenger in the asserted manner since this reference is not related to the problem of providing consistent publication. Thus, it is respectfully submitted that the references fail to disclose "finding at least one strongly connected component in the at least one graph," as recited in claim 53.

Because Challenger and Cormen, either alone or in combination, fail to teach or suggest one or more feature recited in independent claim 53, these references would not have rendered

obvious the subject matter of independent claim 53. Claims 54-56, which depend from claim 53, are likewise patentable over the cited reference for at least the reasons discussed. Accordingly, withdrawal of the rejection of claims 53-56 under 35 U.S.C. §103(a) is respectfully requested.
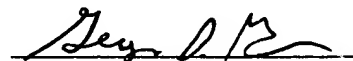
Claims 57-60 are rejected under 35 U.S.C. §103(a) as being unpatentable over Challenger, in view Cormen. The rejection is respectfully traversed.

For at least the reasons presented above, it is respectfully submitted that Challenger, in view of Cormen, fails to disclose or teach the subject matter of dependent claims 57-60. Accordingly, it is respectfully submitted that the combination of Challenger and Cormen fails to render obvious the subject matter of dependent claims 57-60. Accordingly, withdrawal of the rejection of claims 57-60 under 35 U.S.C. §103(a) is respectfully requested.

In view of the foregoing amendments and remarks, it is respectfully submitted that all the claims now pending in the application are in condition for allowance. Early and favorable reconsideration of the case is respectfully requested.

Respectfully submitted,

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MARKED-UP VERSION OF CLAIMS:

1.   (Amended) A method for determining an order in which to construct objects comprising the steps of:

    providing a plurality of objects, at least one of the objects including a relationship with another object in the plurality of objects;

    identifying at least one relationship between the plurality of objects;

    representing the at least one relationship between the plurality of objects using at least one graph; and

    [traversing] topologically sorting the at least one graph to determine the order in which to construct objects in accordance with the at least one relationship and an update to at least one of the objects in the plurality of objects.

3.   (Amended) The method as recited in claim 1, wherein the step of [traversing] topologically sorting the at least one graph [to determine the order] includes the step of selecting [the order] sort criteria based on one of performance and correct construction of the plurality of objects.

9.   (Amended) The method as recited in claim 7, wherein the step of publishing includes the steps of:

    partitioning the [at least one of the] plurality of objects into a plurality of groups; and

    publishing all objects belonging to a same group together.

23.　　　(Amended) The method of claim 20, further comprising the steps of:

determining if a first compound object and a second compound object embed at least one common changed fragment by:

topologically sorting at least part of a graph including dependence edges between objects;

[determining changed fragments needed to construct a first object by:]

examining the graph in an order defined by the topological sort; and

constructing a union between a second object and changed fragments needed to construct the second object for at least one edge which begins with the second object and terminates in the first object and for which the second object has changed.

27.　　　(Amended) A program storage device readable by machine, tangibly embodying a program of instructions executable by the machine to perform method steps for determining an order in which to construct a plurality of objects, the method steps comprising:

providing a plurality of objects, at least one of the objects including a relationship with another object in the plurality of objects;

identifying at least one relationship between the plurality of objects;

representing the plurality of objects and the at least one relationship between the plurality of objects using at least one graph; and

[traversing] topologically sorting the at least one graph to determine the order in which to construct objects in accordance with the at least one relationship and an update to at least one of the objects in the plurality of objects.

29.   (Amended) The program storage device as recited in claim 27, wherein the step of [traversing] <u>topologically sorting the</u> at least one graph [to determine the order] includes the step of selecting [the order] <u>sort criteria</u> based on one of performance and correct construction of the plurality of objects.

35.   (Amended) The program storage device as recited in claim 33, wherein the step of publishing includes the steps of:

partitioning the [at least one of the] plurality of objects into a plurality of groups; and

publishing all objects belonging to a same group together.

49.   (Amended) The program storage device of claim 46, further comprising the steps of:

determining if a first compound object and a second compound object embed at least one common changed fragment by:

topologically sorting a graph including dependence edges between objects;

[determining changed fragments needed to construct a first object by:]

examining the graph in an order defined by the topological sort; and

constructing a union between a second object and changed fragments needed to construct the second object for at least one edge which begins with the second object and terminates in the first object and for which the second object has changed.